APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,393	11/29/2000	Arnab Das	3-9-56	9723

22046	7590	07/14/2004

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EXAMINER
MYERS, PAUL R

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*17 May 2004*</u>.

2a)☐ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-23* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1-14, 16-23 have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-5, 14, and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bruckman PN 2002/0051466 in view of Applicants admitted prior art and Tiedemann, Jr. et al

PN 5,914,950.

In regards to claims 1, 2, 14, 16, 18, 20-21 and 23: Bruckman teaches channel coding

packets to produce channel coded packets (See abstract); and puncturing (fragmenting) and/or

repeating (transmitting) the channel coded packets to produce a first sub-packet (fragment)

having a first size based on a size of the packet and a first data transmission rate at which the first

sub-packet is to be transmitted (See abstract and paragraph 0026). Bruckman teaches the

dynamic transmission rate control above. Bruckman et al also teaches the first data transmission

rate is based on first measured channel conditions however these conditions are measured at the

front end not the receiver. Applicants admitted prior art teaches using measuring channel

conditions at the receiver and transmitting either the channel conditions or the desired

transmission rate based upon the channel conditions to the transmitter. (see page 1 lines 26-32). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the receiver condition measurements because this would have allowed for considering the entire channel not just a small part. Tiedemann, Jr. et al teaches the transmitter selection a transmission rate that is different from and based upon the desired maximum transmission rate of the receiver (Column 11 lines 43-64). It would have been obvious to use a data transmission rate that is different from and based upon the desired maximum transmission rate of the receiver because this would have taken into account factors such as power requirements and other transmitters (see Tiedemann, Jr. et al Column 11 lines 43-64)

In regards to claim 3: Bruckman et al teaches recombining the sub-packets (by reassembler 34).

In regards to claims 4-5: Bruckman et al teaches the size of each fragment being individually determined and the size being variable within a range since packets are digital the sizes have only a discrete number of possibilities. Thus Bruckman et al teaches both the fragments being different sizes and the fragments being of the same sizes.

In regards to claims 17, 19 and 22: applicants admitted prior art teaches the use of a NACK message.

4.   Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman PN 2002/0051466 in view of applicants admitted prior art and Tiedemann, Jr. et al PN 5,914,950 as applied to claim 1 above, and further in view of Buchholz et al PN 5,337,313.

In regards to claims 6-7: Bruckman teaches the dynamic packet size and rate as described above. Bruckman teaches adding a packet start and a packet end in accordance with

the FRF.12 protocol instead of adding a packet size identifier. Bruckman states that while the invention is described in conjunction with the FRF.12 protocol it is not to be limited to that protocol. Bruckman also gives an example of the ATM protocol which includes a five-byte header but does not give details of the header information. Buchholz et al teaches a packet reassembly header (406) that includes a packet length field (660). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a packer size identifier because this would have allowed for the receiver front end to handle packet reassembly more efficiently.

In regards to claims 8 and 12: Bruckman teaches transmitting the fragments based upon their individual transmission rates however Bruckman does not expressly teach modulating the data. Official notice is taken that modulating data to transmit data is well known. For example Modems which stand for Modulator/demodulator. It would have been obvious to modulate the data because this would have allowed for the use of standard modems which have the advantage of having good resistance to noise on the wire.

In regards to claims 9 and 13: Bruckman stares that it is not required to inform the receiver of the transmission rate however it is advantageous to provide the rate information to the receiver/reassembler paragraph 0027.

In regards to claims 10-11: Buchholz et al teaches a protocol field that indicate the packet protocol.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

PN 4504944 to Johannes teaches returning the received data rate for each channel.

PN 2002/0009061 to Willenegger teaches a data rate feedback.

PN 6,088,385 to Liu teaches a data rate feedback.

PN 6,694,469 to Jalali et al teaches using a feedback signal from the receiver to

determine the data transmission rate.

PN 5,574,979 to West teaches fragmenting data into multiple data rates based upon a

feedback signal from the receiver(s).

PN 6,298,092 to Heath, Jr. et al teaches the desired data rate at a receiver determines a

feedback signal to the transmitter that is used to select the actual data transmission

rate.

PN 5,682,379 to Mahany et al teaches the receiver selecting the data transmission rate.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paul R. Myers whose telephone number is 703 305 9656. The

examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Rinehart can be reached on 703 305 4815. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PAUL R. MYERS
PRIMARY EXAMINER

PRM
July 8, 2004